

Claims

1. An emulsion for thermal recording material to be used as a material of a resin component for a protective layer of the thermal recording material,

5 said emulsion comprising resin particles (B) having a glass transition temperature less than 60°C and more than 0°C, or of 60°C, and a copolymer resin (A) prepared by copolymerizing (a) methacrylamide and (b) a vinyl monomer having a carboxyl group; and

10 said resin particles (B) being prepared by polymerizing (c) a vinyl monomer with said copolymer resin (A) so that the copolymer (A) is distributed substantially on the surfaces of the resin particles (B).

15 2. The emulsion for thermal recording material according to claim 1, which comprises resin particles (B) prepared by polymerizing (c) a vinyl monomer in the presence of a copolymer resin (A) obtained by making water-soluble, with a base, a copolymer resin (A)
20 prepared by copolymerizing a monomer mixture containing (a) methacrylamide and (b) a vinyl monomer having a carboxyl group.

3. The emulsion for thermal recording material according to claim 1, wherein the glass transition temperature of the resin particles (B) is 4°C to 60°C.

5 4. The emulsion for thermal recording material according to claim 1, wherein the glass transition temperature of the resin particles (B) is 4°C to 38°C.

5. An emulsion for thermal recording material to be used as a material of a resin component for a protective layer of the thermal recording material,

said emulsion comprising resin particles (B) having a glass transition temperature less than 60°C and more than 0°C, or of 60°C, and prepared by polymerizing (c) a vinyl monomer in the presence of a copolymer resin (A) obtained by making water-soluble, with a base, a copolymer resin (A) prepared by copolymerizing a monomer mixture containing (a) methacrylamide and (b) a vinyl monomer having a carboxyl group.

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6. The emulsion for thermal recording material according to claim 5, wherein 30 to 95 parts by weight of the methacrylamide (a) and 2 to 50 parts by weight of the

carboxyl group-containing vinyl monomer (b) are contained in 100 parts by weight of the solid content of the monomer mixture.

5 7. The emulsion for thermal recording material according to claim 5, wherein the vinyl monomer (c) contains a nitrile group-containing vinyl monomer or an aromatic vinyl monomer.

10 8. The emulsion for thermal recording material according to claim 5, wherein the amount of the copolymer resin (A) is 20 to 200 parts by weight when the total amount of the vinyl monomer (c) is 100 parts by weight.

15 9. The emulsion for thermal recording material according to claim 5, wherein the glass transition temperature of the resin particles (B) is 4°C to 60°C.

 10. The emulsion for thermal recording material
20 according to claim 5, wherein the glass transition temperature of the resin particles (B) is 4°C to 38°C.

 11. A process for producing an emulsion for

thermal recording material to be used as a material of a resin component for a protective layer of the thermal recording material comprising:

a step of copolymerizing a monomer mixture
5 containing (a) methacrylamide and (b) a vinyl monomer having a carboxyl group, to obtain a copolymer resin, and

a step of treating the copolymer resin with a base to convert it into a water-soluble copolymer resin (A) and then polymerizing (c) a vinyl monomer in the presence
10 of the copolymer resin (A), to obtain resin particles (B), said particles (B) having a glass transition temperature less than 60°C and more than 0°C, or of 60°C.

12. The process for producing an emulsion for
15 thermal recording material according to claim 11, wherein 30 to 95 parts by weight of the methacrylamide (a) and 2 to 50 parts by weight of the carboxyl group-containing vinyl monomer (b) are contained in 100 parts by weight of the solid content of the monomer mixture.

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13. The process for producing an emulsion for thermal recording material according to claim 11, wherein the vinyl monomer (c) contains a nitrile group-containing

vinyl monomer or an aromatic vinyl monomer.

14. The process for producing an emulsion for the thermal recording material according to claim 11, wherein
5 the amount of the copolymer resin (A) is 20 to 200 parts by weight when the total amount of the vinyl monomer (c) is 100 parts by weight.

15 15. The process for producing an emulsion for the thermal recording material according to claim 11, wherein the glass transition temperature of the resin particles (B) is 4°C to 60°C.

16. The process for producing an emulsion for the
15 thermal recording material according to claim 11, wherein the glass transition temperature of the resin particles (B) is 4°C to 38°C.

17. A thermal recoding material comprising a
20 substrate, a thermal recoding layer formed thereon, and protective layer formed on the thermal recoding layer and/or on the back side of the substrate, wherein the resin component of the protective layer is obtained from

the emulsion of claim 1.

18. A thermal recording material comprising a substrate, a thermal recoding layer formed thereon, and a
5 protective layer formed on the thermal recording layer and/or on the back side of the substrate, wherein the resin component of the protective layer is obtained from the emulsion of claim 5.